Release notes for ENDF/B Development n-025_Mn_055 evaluation

April 26, 2017

- `fizcon` Warnings:

  1. GANDR gave this guy huge uncertainties, they are correct, but the evaluations could be better
     MAT=2525, MF=33, MT=856 (1): Huge var.

     ```
         WARNING(S)     IN MAT=2525, MF=33, MT=856
            VARIANCE INCORRECT                              SEQUENCE NUMBER     20
                VAR= 2.26627E+04 AT LIST LOCATION 116
            VARIANCE INCORRECT                              SEQUENCE NUMBER     21
                VAR= 2.24571E+05 AT LIST LOCATION 122
        ... [4 more lines]
     ```

- `psyche` Warnings:

  1. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 55. L = 0 / AT RESONANCE ENERGY 8.61087E+04 EV. THE GAMMA WIDTH 1.57285E-01 DEVIATES TOO MUCH FROM THE AVERAGE 5.74981E-01 (0): Gamma width

     ```
        FILE  2
           SECTION 151
              ISOTOPE MASS =  55. L =  0
                        AT RESONANCE ENERGY  8.61087E+04 EV. THE GAMMA WIDTH  1.57285E-01 DEVIATES TOO MUCH FROM THE AV
     ```

  2. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 55. L = 1 / AT RESONANCE ENERGY 1.11748E+05 EV. THE GAMMA WIDTH 1.02734E-01 DEVIATES TOO MUCH FROM THE AVERAGE 4.16831E-01 (0): Gamma width

     ```
        FILE  2
           SECTION 151
              ISOTOPE MASS =  55. L =  1
                        AT RESONANCE ENERGY  1.11748E+05 EV. THE GAMMA WIDTH  1.02734E-01 DEVIATES TOO MUCH FROM THE AV
     ```

  3. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 55. L = 1 / AT RESONANCE ENERGY 1.21382E+05 EV. THE GAMMA WIDTH 1.17702E-01 DEVIATES TOO MUCH FROM THE AVERAGE 4.16831E-01 (0): Gamma width

     ```
        FILE  2
           SECTION 151
              ISOTOPE MASS =  55. L =  1
                        AT RESONANCE ENERGY  1.21382E+05 EV. THE GAMMA WIDTH  1.17702E-01 DEVIATES TOO MUCH FROM THE AV
     ```

  4. Level density in URR not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.65361E-04 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 4.08327E+03 SHOULD BE 3.39921E+03 (0): URR dens. (a)

     ```
        FILE  2
           SECTION 151
              ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.65361E-04
                        ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.65361E-04
                                  DENSITY  4.08327E+03 SHOULD BE  3.39921E+03
     ```

1

5. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 3.85481E+03 SHOULD BE 3.20902E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                         DENSITY  3.85481E+03 SHOULD BE  3.20902E+03
```

6. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 3.57099E+03 SHOULD BE 2.97275E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                         DENSITY  3.57099E+03 SHOULD BE  2.97275E+03
```

7. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 3.30915E+03 SHOULD BE 2.75479E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                         DENSITY  3.30915E+03 SHOULD BE  2.75479E+03
```

8. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 3.06752E+03 SHOULD BE 2.55364E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                         DENSITY  3.06752E+03 SHOULD BE  2.55364E+03
```

9. Level density in URR not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 2.84444E+03 SHOULD BE 2.36793E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                         DENSITY  2.84444E+03 SHOULD BE  2.36793E+03
```

10. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 2.63842E+03 SHOULD BE 2.19643E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                         DENSITY  2.63842E+03 SHOULD BE  2.19643E+03
```

11. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 2.44809E+03 SHOULD BE 2.03798E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                           DENSITY  2.44809E+03 SHOULD BE  2.03798E+03
```

12. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 2.27219E+03 SHOULD BE 1.89156E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  3.65361E-04
                           DENSITY  2.27219E+03 SHOULD BE  1.89156E+03
```

13. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 3.65361E-04 / DENSITY 2.10958E+03 SHOULD BE 1.75619E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  3.65361E-04
                           DENSITY  2.10958E+03 SHOULD BE  1.75619E+03
```

14. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50858E-06 / STRENGTH FUNCTION 2.50858E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
         ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50858E-06
                         STRENGTH FUNCTION 2.50858E-06
                                         LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [3 more lines]
```

15. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50858E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
         ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50858E-06
                         STRENGTH FUNCTION 2.50859E-06
                                         LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [5 more lines]
```

16. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50859E-06 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 4.75890E+03 SHOULD BE 4.21133E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
               ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
                           DENSITY  4.75890E+03 SHOULD BE  4.21133E+03
```

17. Strength function in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION
    IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS
    1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.*

```
FILE  2
   SECTION 151
         ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
                     STRENGTH FUNCTION 2.50859E-06
                                 LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [2 more lines]
```

18. Level density in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 4.49263E+03 SHOULD BE 3.97571E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                     DENSITY  4.49263E+03 SHOULD BE  3.97571E+03
```

19. Strength function in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION
    IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS
    1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.*

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                     STRENGTH FUNCTION 2.50859E-06
                                 LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [2 more lines]
```

20. Level density in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 4.16186E+03 SHOULD BE 3.68300E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                     DENSITY  4.16186E+03 SHOULD BE  3.68300E+03
```

21. Strength function in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION
    IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS
    1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.*

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
```

```
                STRENGTH FUNCTION 2.50859E-06
                                      LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
     ... [1 more lines]
```

22. Level density in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS
    2.50858E-06 / DENSITY 3.85671E+03 SHOULD BE 3.41296E+03 (0): URR dens. (a)*

```
     FILE  2
        SECTION 151
              ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                              DENSITY  3.85671E+03 SHOULD BE  3.41296E+03
```

23. Strength function in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION
    IS 2.50858E-06 / STRENGTH FUNCTION 2.50858E-06 / LIES OUTSIDE LIMITS
    1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.*

```
     FILE  2
        SECTION 151
              ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                              STRENGTH FUNCTION 2.50858E-06
                                      LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
```

24. Level density in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 3.57509E+03 SHOULD BE 3.16375E+03 (0): URR dens. (a)*

```
     FILE  2
        SECTION 151
              ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                              DENSITY  3.57509E+03 SHOULD BE  3.16375E+03
```

25. Strength function in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION
    IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS
    1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.*

```
     FILE  2
        SECTION 151
              ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                              STRENGTH FUNCTION 2.50859E-06
                                      LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
     ... [2 more lines]
```

26. Level density in URR not in agreement with PSYCHE's expectations
    *FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS
    2.50858E-06 / DENSITY 3.31510E+03 SHOULD BE 2.93368E+03 (0): URR dens. (a)*

```
     FILE  2
        SECTION 151
              ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                              DENSITY  3.31510E+03 SHOULD BE  2.93368E+03
```

27. Strength function in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION

IS 2.50858E-06 / STRENGTH FUNCTION 2.50858E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
            ENERGY =  6.00000E+05. STRENGTH FUNCTION IS   2.50858E-06
                           STRENGTH FUNCTION 2.50858E-06
                                         LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [2 more lines]
```

28. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 2.50858E-06 / DENSITY 3.07500E+03 SHOULD BE 2.72120E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  7.00000E+05. STRENGTH FUNCTION IS   2.50858E-06
                           DENSITY  3.07500E+03 SHOULD BE   2.72120E+03
```

29. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 2.50858E-06 / STRENGTH FUNCTION 2.50858E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
            ENERGY =  7.00000E+05. STRENGTH FUNCTION IS   2.50858E-06
                           STRENGTH FUNCTION 2.50858E-06
                                         LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [1 more lines]
```

30. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.85318E+03 SHOULD BE 2.52491E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  8.00000E+05. STRENGTH FUNCTION IS   2.50859E-06
                           DENSITY  2.85318E+03 SHOULD BE   2.52491E+03
```

31. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
            ENERGY =  8.00000E+05. STRENGTH FUNCTION IS   2.50859E-06
                           STRENGTH FUNCTION 2.50859E-06
                                         LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [2 more lines]
```

32. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.64818E+03 SHOULD BE 2.34349E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                        DENSITY  2.64818E+03 SHOULD BE  2.34349E+03
```

33. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
          ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                        STRENGTH FUNCTION 2.50859E-06
                                       LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [2 more lines]
```

34. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 2.50858E-06 / DENSITY 2.45866E+03 SHOULD BE 2.17578E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  2.50858E-06
                        DENSITY  2.45866E+03 SHOULD BE  2.17578E+03
```

35. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 2.50858E-06 / STRENGTH FUNCTION 2.50858E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
          ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  2.50858E-06
                        STRENGTH FUNCTION 2.50858E-06
                                       LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
```

36. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50859E-06 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 4.08327E+03 SHOULD BE 3.00810E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
        ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
                ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
                            DENSITY  4.08327E+03 SHOULD BE  3.00810E+03
```

37. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 3.85481E+03 SHOULD BE 2.83979E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                        DENSITY  3.85481E+03 SHOULD BE  2.83979E+03
```

38. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 2.50858E-06 / DENSITY 3.57099E+03 SHOULD BE 2.63071E+03 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                           DENSITY  3.57099E+03 SHOULD BE  2.63071E+03
```

39. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 2.50858E-06 / STRENGTH FUNCTION 2.50858E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
    SECTION 151
            ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                           STRENGTH FUNCTION 2.50858E-06
                                       LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
```

40. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 3.30915E+03 SHOULD BE 2.43783E+03 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                           DENSITY  3.30915E+03 SHOULD BE  2.43783E+03
```

41. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
    SECTION 151
            ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                           STRENGTH FUNCTION 2.50859E-06
                                       LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [1 more lines]
```

42. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 3.06752E+03 SHOULD BE 2.25982E+03 (0): URR dens. (a)

```
FILE  2
    SECTION 151
            ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                           DENSITY  3.06752E+03 SHOULD BE  2.25982E+03
```

43. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 2.50858E-06 / DENSITY 2.84444E+03 SHOULD BE 2.09548E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                          DENSITY  2.84444E+03 SHOULD BE  2.09548E+03
```

44. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.63842E+03 SHOULD BE 1.94372E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                          DENSITY  2.63842E+03 SHOULD BE  1.94372E+03
```

45. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
            ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                          STRENGTH FUNCTION 2.50859E-06
                               LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
```

46. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.44809E+03 SHOULD BE 1.80350E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                          DENSITY  2.44809E+03 SHOULD BE  1.80350E+03
```

47. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.27219E+03 SHOULD BE 1.67392E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                          DENSITY  2.27219E+03 SHOULD BE  1.67392E+03
```

48. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.10958E+03 SHOULD BE 1.55413E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  2.50859E-06
                          DENSITY  2.10958E+03 SHOULD BE  1.55413E+03
```

49. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 2.50859E-06 / STRENGTH FUNCTION 2.50859E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
          ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  2.50859E-06
                         STRENGTH FUNCTION 2.50859E-06
                                          LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04
... [1 more lines]
```

50. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 2.50859E-06 /
    DENSITY 4.05544E+03 SHOULD BE 2.33963E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
        ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
                    ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  2.50859E-06
                               DENSITY  4.05544E+03 SHOULD BE  2.33963E+03
```

51. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 3.82853E+03 SHOULD BE 2.20873E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                         DENSITY  3.82853E+03 SHOULD BE  2.20873E+03
```

52. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 3.54664E+03 SHOULD BE 2.04611E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                         DENSITY  3.54664E+03 SHOULD BE  2.04611E+03
```

53. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 3.28658E+03 SHOULD BE 1.89609E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                         DENSITY  3.28658E+03 SHOULD BE  1.89609E+03
```

54. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS
    2.50859E-06 / DENSITY 3.04659E+03 SHOULD BE 1.75764E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                         DENSITY  3.04659E+03 SHOULD BE  1.75764E+03
```

55. Level density in URR not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS
    2.50858E-06 / DENSITY 2.82503E+03 SHOULD BE 1.62982E+03 (0): URR dens. (a)

10

```
        FILE  2
           SECTION 151
                ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                            DENSITY  2.82503E+03 SHOULD BE  1.62982E+03
```

56. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 2.50858E-06 / DENSITY 2.62041E+03 SHOULD BE 1.51178E+03 (0): URR dens. (a)

```
        FILE  2
           SECTION 151
                ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  2.50858E-06
                            DENSITY  2.62041E+03 SHOULD BE  1.51178E+03
```

57. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.43138E+03 SHOULD BE 1.40273E+03 (0): URR dens. (a)

```
        FILE  2
           SECTION 151
                ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                            DENSITY  2.43138E+03 SHOULD BE  1.40273E+03
```

58. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.25668E+03 SHOULD BE 1.30194E+03 (0): URR dens. (a)

```
        FILE  2
           SECTION 151
                ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  2.50859E-06
                            DENSITY  2.25668E+03 SHOULD BE  1.30194E+03
```

59. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 2.50859E-06 / DENSITY 2.09517E+03 SHOULD BE 1.20877E+03 (0): URR dens. (a)

```
        FILE  2
           SECTION 151
                ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  2.50859E-06
                            DENSITY  2.09517E+03 SHOULD BE  1.20877E+03
```

60. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 7.01889E+03 SHOULD BE 6.60276E+03 (0): URR dens. (a)

```
        FILE  2
           SECTION 151
              ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.52741E-04
                    ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.52741E-04
                            DENSITY  7.01889E+03 SHOULD BE  6.60276E+03
```

61. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 6.62618E+03 SHOULD BE 6.23333E+03 (0): URR dens. (a)

11

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  6.62618E+03 SHOULD BE  6.23333E+03
```

62. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 6.13833E+03 SHOULD BE 5.77441E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  6.13833E+03 SHOULD BE  5.77441E+03
```

63. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 5.68826E+03 SHOULD BE 5.35103E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  5.68826E+03 SHOULD BE  5.35103E+03
```

64. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 5.27291E+03 SHOULD BE 4.96031E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  5.27291E+03 SHOULD BE  4.96031E+03
```

65. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 4.88946E+03 SHOULD BE 4.59959E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  4.88946E+03 SHOULD BE  4.59959E+03
```

66. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 4.53534E+03 SHOULD BE 4.26646E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  4.53534E+03 SHOULD BE  4.26646E+03
```

67. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 4.20818E+03 SHOULD BE 3.95870E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
           ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  4.20818E+03 SHOULD BE  3.95870E+03
```

68. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 3.90582E+03 SHOULD BE 3.67428E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
           ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.90582E+03 SHOULD BE  3.67428E+03
```

69. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 3.62630E+03 SHOULD BE 3.41133E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
           ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.62630E+03 SHOULD BE  3.41133E+03
```

70. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS
3.52741E-04 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 /
DENSITY 4.75890E+03 SHOULD BE 3.96165E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.52741E-04
                ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  4.75890E+03 SHOULD BE  3.96165E+03
```

71. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 4.49263E+03 SHOULD BE 3.74000E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
           ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  4.49263E+03 SHOULD BE  3.74000E+03
```

72. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 4.16186E+03 SHOULD BE 3.46464E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
           ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  4.16186E+03 SHOULD BE  3.46464E+03
```

73. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 3.85671E+03 SHOULD BE 3.21062E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
          ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.85671E+03 SHOULD BE  3.21062E+03
```

74. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.57509E+03 SHOULD BE 2.97618E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.57509E+03 SHOULD BE  2.97618E+03
```

75. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.31510E+03 SHOULD BE 2.75976E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.31510E+03 SHOULD BE  2.75976E+03
```

76. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 3.52740E-04 / DENSITY 3.07500E+03 SHOULD BE 2.55988E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  3.52740E-04
                         DENSITY  3.07500E+03 SHOULD BE  2.55988E+03
```

77. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.85318E+03 SHOULD BE 2.37522E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  2.85318E+03 SHOULD BE  2.37522E+03
```

78. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.64818E+03 SHOULD BE 2.20457E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
          ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  2.64818E+03 SHOULD BE  2.20457E+03
```

79. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.45866E+03 SHOULD BE 2.04680E+03 (0): URR dens. (a)

14

```
FILE   2
   SECTION 151
           ENERGY =   1.00000E+06. STRENGTH FUNCTION IS   3.52741E-04
                           DENSITY   2.45866E+03 SHOULD BE   2.04680E+03
```

80. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 4.08327E+03 SHOULD BE 2.82975E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
         ENERGY =   1.25000E+05. STRENGTH FUNCTION IS   3.52741E-04
                   ENERGY =   1.25000E+05. STRENGTH FUNCTION IS   3.52741E-04
                           DENSITY   4.08327E+03 SHOULD BE   2.82975E+03
```

81. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.85481E+03 SHOULD BE 2.67143E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   2.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                           DENSITY   3.85481E+03 SHOULD BE   2.67143E+03
```

82. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.57099E+03 SHOULD BE 2.47475E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   3.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                           DENSITY   3.57099E+03 SHOULD BE   2.47475E+03
```

83. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.30915E+03 SHOULD BE 2.29330E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   4.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                           DENSITY   3.30915E+03 SHOULD BE   2.29330E+03
```

84. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.06752E+03 SHOULD BE 2.12585E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   5.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                           DENSITY   3.06752E+03 SHOULD BE   2.12585E+03
```

85. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.84444E+03 SHOULD BE 1.97125E+03 (0): URR dens. (a)

15

```
FILE  2
    SECTION 151
            ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                      DENSITY  2.84444E+03 SHOULD BE  1.97125E+03
```

86. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 2.63842E+03 SHOULD BE 1.82848E+03 (0): URR dens. (a)*

```
FILE  2
    SECTION 151
            ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                      DENSITY  2.63842E+03 SHOULD BE  1.82848E+03
```

87. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 2.44809E+03 SHOULD BE 1.69659E+03 (0): URR dens. (a)*

```
FILE  2
    SECTION 151
            ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                      DENSITY  2.44809E+03 SHOULD BE  1.69659E+03
```

88. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 2.27219E+03 SHOULD BE 1.57469E+03 (0): URR dens. (a)*

```
FILE  2
    SECTION 151
            ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                      DENSITY  2.27219E+03 SHOULD BE  1.57469E+03
```

89. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 2.10958E+03 SHOULD BE 1.46200E+03 (0): URR dens. (a)*

```
FILE  2
    SECTION 151
            ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  3.52741E-04
                      DENSITY  2.10958E+03 SHOULD BE  1.46200E+03
```

90. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS
3.52741E-04 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 /
DENSITY 4.05544E+03 SHOULD BE 2.20092E+03 (0): URR dens. (a)*

```
FILE  2
    SECTION 151
         ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.52741E-04
                ENERGY =  1.25000E+05. STRENGTH FUNCTION IS  3.52741E-04
                          DENSITY  4.05544E+03 SHOULD BE  2.20092E+03
```

91. Level density in URR not in agreement with PSYCHE's expectations
*FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS
3.52741E-04 / DENSITY 3.82853E+03 SHOULD BE 2.07778E+03 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.82853E+03 SHOULD BE  2.07778E+03
```

92. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.54664E+03 SHOULD BE 1.92480E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  3.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.54664E+03 SHOULD BE  1.92480E+03
```

93. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.28658E+03 SHOULD BE 1.78368E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.28658E+03 SHOULD BE  1.78368E+03
```

94. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.04659E+03 SHOULD BE 1.65344E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  3.04659E+03 SHOULD BE  1.65344E+03
```

95. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.82503E+03 SHOULD BE 1.53320E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  2.82503E+03 SHOULD BE  1.53320E+03
```

96. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.62041E+03 SHOULD BE 1.42215E+03 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  2.62041E+03 SHOULD BE  1.42215E+03
```

97. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.43138E+03 SHOULD BE 1.31957E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   8.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                             DENSITY   2.43138E+03 SHOULD BE   1.31957E+03
```

98. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.25668E+03 SHOULD BE 1.22476E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   9.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                             DENSITY   2.25668E+03 SHOULD BE   1.22476E+03
```

99. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.09517E+03 SHOULD BE 1.13711E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   1.00000E+06. STRENGTH FUNCTION IS   3.52741E-04
                             DENSITY   2.09517E+03 SHOULD BE   1.13711E+03
```

100. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 / ENERGY = 1.25000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 4.50408E+03 SHOULD BE 1.80075E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
        ENERGY =   1.25000E+05. STRENGTH FUNCTION IS   3.52741E-04
                    ENERGY =   1.25000E+05. STRENGTH FUNCTION IS   3.52741E-04
                             DENSITY   4.50408E+03 SHOULD BE   1.80075E+03
```

101. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 2.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 4.25205E+03 SHOULD BE 1.70000E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   2.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                             DENSITY   4.25205E+03 SHOULD BE   1.70000E+03
```

102. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 3.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.93897E+03 SHOULD BE 1.57484E+03 (0): URR dens. (a)

```
FILE   2
   SECTION 151
           ENERGY =   3.00000E+05. STRENGTH FUNCTION IS   3.52741E-04
                             DENSITY   3.93897E+03 SHOULD BE   1.57484E+03
```

103. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 4.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.65015E+03 SHOULD BE 1.45937E+03 (0): URR dens. (a)

```
          FILE  2
            SECTION 151
                  ENERGY =  4.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                               DENSITY  3.65015E+03 SHOULD BE  1.45937E+03
```

104. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 5.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.38360E+03 SHOULD BE 1.35281E+03 (0): URR dens. (a)

```
          FILE  2
            SECTION 151
                  ENERGY =  5.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                               DENSITY  3.38360E+03 SHOULD BE  1.35281E+03
```

105. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 6.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 3.13752E+03 SHOULD BE 1.25443E+03 (0): URR dens. (a)

```
          FILE  2
            SECTION 151
                  ENERGY =  6.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                               DENSITY  3.13752E+03 SHOULD BE  1.25443E+03
```

106. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 7.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.91027E+03 SHOULD BE 1.16358E+03 (0): URR dens. (a)

```
          FILE  2
            SECTION 151
                  ENERGY =  7.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                               DENSITY  2.91027E+03 SHOULD BE  1.16358E+03
```

107. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 8.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.70032E+03 SHOULD BE 1.07965E+03 (0): URR dens. (a)

```
          FILE  2
            SECTION 151
                  ENERGY =  8.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                               DENSITY  2.70032E+03 SHOULD BE  1.07965E+03
```

108. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 9.00000E+05. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.50629E+03 SHOULD BE 1.00208E+03 (0): URR dens. (a)

```
          FILE  2
            SECTION 151
                  ENERGY =  9.00000E+05. STRENGTH FUNCTION IS  3.52741E-04
                               DENSITY  2.50629E+03 SHOULD BE  1.00208E+03
```

109. Level density in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ENERGY = 1.00000E+06. STRENGTH FUNCTION IS 3.52741E-04 / DENSITY 2.32692E+03 SHOULD BE 9.30362E+02 (0): URR dens. (a)

```
FILE  2
   SECTION 151
            ENERGY =  1.00000E+06. STRENGTH FUNCTION IS  3.52741E-04
                         DENSITY  2.32692E+03 SHOULD BE  9.30362E+02
```

- `fudge-4.0` Warnings:

  1. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 1 (n + Mn55): / Form 'eval': / Component 2 (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  2. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 39 (Mn56 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  3. The on-diagonal elements of a covariance (the varience...) were very big.
     Section 66 (lump5): / Form 'eval': (Error # 0): Large variance

     ```
     WARNING: Encountered very large variance (2.512930e+03%) at index 8.
     WARNING: Encountered very large variance (2.266270e+04%) at index 9.
     WARNING: Encountered very large variance (2.245710e+05%) at index 10.
     WARNING: Encountered very large variance (7.916890e+06%) at index 11.
             ... plus 1 more instances of this message
     ```

  4. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 66 (lump5): / Form 'eval': (Error # 1): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (2.839733e-13) is too small
     ```

  5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 67 (n + Mn55 [angular distribution]): / Form 'eval': (Error # 2): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

  6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
     Section 68 (n + Mn55_e1 [angular distribution]): / Form 'eval': (Error # 2): Condition num.

     ```
     WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
     ```

- `fudge-4.0` Errors:

  1. Calculated and tabulated Q values disagree.
     reaction label 41: n[multiplicity:'2'] + Mn54 + gamma (Error # 0): Q mismatch

     ```
     WARNING: Calculated and tabulated Q-values disagree: -10241262.47215271 eV vs -1.0226e7 eV!
     ```

20

2. Calculated and tabulated Q values disagree.
   reaction label 43: n[multiplicity:'4'] + Mn52 + gamma (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -31193570.09866333 eV vs -3.1218e7 eV!
   ```

3. Calculated and tabulated Q values disagree.
   reaction label 44: H1 + Cr55 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -1847986.722442627 eV vs -1.821e6 eV!
   ```

4. Calculated and tabulated Q values disagree.
   reaction label 45: H1 + Cr55_e1 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -2089896.722442627 eV vs -2062910. eV!
   ```

5. Calculated and tabulated Q values disagree.
   reaction label 46: H1 + Cr55_e2 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -2365686.722442627 eV vs -2.3387e6 eV!
   ```

6. Calculated and tabulated Q values disagree.
   reaction label 47: H1 + Cr55_e3 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -2413896.722442627 eV vs -2386910. eV!
   ```

7. Calculated and tabulated Q values disagree.
   reaction label 48: H1 + Cr55_e4 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -2728696.722442627 eV vs -2701710. eV!
   ```

8. Calculated and tabulated Q values disagree.
   reaction label 49: H1 + Cr55_e5 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -2978986.722442627 eV vs -2.952e6 eV!
   ```

9. Calculated and tabulated Q values disagree.
   reaction label 50: H1 + Cr55_e6 (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -3062736.722442627 eV vs -3035750. eV!
   ```

10. Calculated and tabulated Q values disagree.
    reaction label 51: H1 + Cr55_e7 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -3286806.722442627 eV vs -3259820. eV!
    ```

11. Calculated and tabulated Q values disagree.
    reaction label 52: H1 + Cr55_e8 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -3322186.722442627 eV vs -3.2952e6 eV!
    ```

12. Calculated and tabulated Q values disagree.
    reaction label 53: H1 + Cr55_e9 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -3327016.722442627 eV vs -3300030. eV!
    ```

13. Calculated and tabulated Q values disagree.
    reaction label 54: H1 + Cr55_e10 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -3855986.722442627 eV vs -3.829e6 eV!`

14. Calculated and tabulated Q values disagree.
    reaction label 55: H1 + Cr55_e11 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -3931836.722442627 eV vs -3904850. eV!`

15. Calculated and tabulated Q values disagree.
    reaction label 56: H1 + Cr55_e12 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -3934086.722442627 eV vs -3.9071e6 eV!`

16. Calculated and tabulated Q values disagree.
    reaction label 57: H1 + Cr55_e13 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4117226.722442627 eV vs -4090240. eV!`

17. Calculated and tabulated Q values disagree.
    reaction label 58: H1 + Cr55_e14 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4167986.722442627 eV vs -4.141e6 eV!`

18. Calculated and tabulated Q values disagree.
    reaction label 59: H1 + Cr55_e15 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4202986.722442627 eV vs -4.176e6 eV!`

19. Calculated and tabulated Q values disagree.
    reaction label 60: H1 + Cr55_e16 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4238386.722442627 eV vs -4.2114e6 eV!`

20. Calculated and tabulated Q values disagree.
    reaction label 61: H1 + Cr55_e17 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4392986.722442627 eV vs -4.366e6 eV!`

21. Calculated and tabulated Q values disagree.
    reaction label 62: H1 + Cr55_e18 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4443986.722442627 eV vs -4.417e6 eV!`

22. Calculated and tabulated Q values disagree.
    reaction label 63: H1 + Cr55_e19 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4534976.722442627 eV vs -4507990. eV!`

23. Calculated and tabulated Q values disagree.
    reaction label 64: H1 + Cr55_e20 (Error # 0): Q mismatch

    `WARNING: Calculated and tabulated Q-values disagree: -4557986.722442627 eV vs -4.531e6 eV!`

24. Calculated and tabulated Q values disagree.
reaction label 65: H1 + Cr55_e21 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4603476.722442627 eV vs -4576490. eV!
```

25. Calculated and tabulated Q values disagree.
reaction label 66: H1 + Cr55_e22 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4721986.722442627 eV vs -4.695e6 eV!
```

26. Calculated and tabulated Q values disagree.
reaction label 67: H1 + Cr55_e23 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4728346.722442627 eV vs -4701360. eV!
```

27. Calculated and tabulated Q values disagree.
reaction label 68: H1 + Cr55_e24 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4742526.722442627 eV vs -4715540. eV!
```

28. Calculated and tabulated Q values disagree.
reaction label 69: H1 + Cr55_e25 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4856986.722442627 eV vs -4.83e6 eV!
```

29. Calculated and tabulated Q values disagree.
reaction label 70: H1 + Cr55_e26 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4864986.722442627 eV vs -4.838e6 eV!
```

30. Calculated and tabulated Q values disagree.
reaction label 71: H1 + Cr55_e27 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4961986.722442627 eV vs -4.935e6 eV!
```

31. Calculated and tabulated Q values disagree.
reaction label 72: H1 + Cr55_e28 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4992986.722442627 eV vs -4.966e6 eV!
```

32. Calculated and tabulated Q values disagree.
reaction label 73: H1 + Cr55_e29 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5047986.722442627 eV vs -5.021e6 eV!
```

33. Calculated and tabulated Q values disagree.
reaction label 74: H1 + Cr55_e30 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5141986.722442627 eV vs -5.115e6 eV!
```

34. Calculated and tabulated Q values disagree.
reaction label 75: H1 + Cr55_e31 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5154206.722442627 eV vs -5127220. eV!
```

23

35. Calculated and tabulated Q values disagree.
reaction label 76: H1 + Cr55_e32 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5198986.722442627 eV vs -5.172e6 eV!
```

36. Calculated and tabulated Q values disagree.
reaction label 77: H1 + (Cr55_c ->Cr55 + gamma) (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5198986.722442627 eV vs -5.172e6 eV!
```

37. Calculated and tabulated Q values disagree.
reaction label 78: He4 + V52 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -580327.2554779053 eV vs -6.23e5 eV!
```

38. Calculated and tabulated Q values disagree.
reaction label 79: He4 + V52_e1 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -597487.2554779053 eV vs -640160. eV!
```

39. Calculated and tabulated Q values disagree.
reaction label 80: He4 + V52_e2 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -603087.2554779053 eV vs -645760. eV!
```

40. Calculated and tabulated Q values disagree.
reaction label 81: He4 + V52_e3 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -721937.2554779053 eV vs -764610. eV!
```

41. Calculated and tabulated Q values disagree.
reaction label 82: He4 + V52_e4 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -728177.2554779053 eV vs -770850. eV!
```

42. Calculated and tabulated Q values disagree.
reaction label 83: He4 + V52_e5 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -1016957.255477905 eV vs -1059630. eV!
```

43. Calculated and tabulated Q values disagree.
reaction label 84: He4 + V52_e6 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -1373867.255477905 eV vs -1416540. eV!
```

44. Calculated and tabulated Q values disagree.
reaction label 85: He4 + V52_e7 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -1426267.255477905 eV vs -1468940. eV!
```

45. Calculated and tabulated Q values disagree.
reaction label 86: He4 + V52_e8 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -1461327.255477905 eV vs -1.504e6 eV!
```

24

46. Calculated and tabulated Q values disagree.
reaction label 87: He4 + V52_e9 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -1870177.255477905 eV vs -1912850. eV!
```

47. Calculated and tabulated Q values disagree.
reaction label 88: He4 + V52_e10 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -1999137.255477905 eV vs -2041810. eV!
```

48. Calculated and tabulated Q values disagree.
reaction label 89: He4 + V52_e11 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2073387.255477905 eV vs -2116060. eV!
```

49. Calculated and tabulated Q values disagree.
reaction label 90: He4 + V52_e12 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2139177.255477905 eV vs -2181850. eV!
```

50. Calculated and tabulated Q values disagree.
reaction label 91: He4 + V52_e13 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2159487.255477905 eV vs -2202160. eV!
```

51. Calculated and tabulated Q values disagree.
reaction label 92: He4 + V52_e14 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2244327.255477905 eV vs -2.287e6 eV!
```

52. Calculated and tabulated Q values disagree.
reaction label 93: He4 + V52_e15 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2312897.255477905 eV vs -2355570. eV!
```

53. Calculated and tabulated Q values disagree.
reaction label 94: He4 + V52_e16 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2339947.255477905 eV vs -2382620. eV!
```

54. Calculated and tabulated Q values disagree.
reaction label 95: He4 + V52_e17 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2350497.255477905 eV vs -2393170. eV!
```

55. Calculated and tabulated Q values disagree.
reaction label 96: He4 + V52_e18 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2375447.255477905 eV vs -2418120. eV!
```

56. Calculated and tabulated Q values disagree.
reaction label 97: He4 + V52_e19 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2423327.255477905 eV vs -2.466e6 eV!
```

57. Calculated and tabulated Q values disagree.
reaction label 98: He4 + V52_e20 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2681157.255477905 eV vs -2723830. eV!
```

58. Calculated and tabulated Q values disagree.
reaction label 99: He4 + V52_e21 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2732327.255477905 eV vs -2.775e6 eV!
```

59. Calculated and tabulated Q values disagree.
reaction label 100: He4 + V52_e22 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2748967.255477905 eV vs -2791640. eV!
```

60. Calculated and tabulated Q values disagree.
reaction label 101: He4 + V52_e23 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2898357.255477905 eV vs -2941030. eV!
```

61. Calculated and tabulated Q values disagree.
reaction label 102: He4 + V52_e24 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2927327.255477905 eV vs -2.97e6 eV!
```

62. Calculated and tabulated Q values disagree.
reaction label 103: He4 + V52_e25 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2976327.255477905 eV vs -3.019e6 eV!
```

63. Calculated and tabulated Q values disagree.
reaction label 104: He4 + V52_e26 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3007987.255477905 eV vs -3050660. eV!
```

64. Calculated and tabulated Q values disagree.
reaction label 105: He4 + V52_e27 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3053327.255477905 eV vs -3.096e6 eV!
```

65. Calculated and tabulated Q values disagree.
reaction label 106: He4 + V52_e28 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3119147.255477905 eV vs -3161820. eV!
```

66. Calculated and tabulated Q values disagree.
reaction label 107: He4 + V52_e29 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3123327.255477905 eV vs -3.166e6 eV!
```

67. Calculated and tabulated Q values disagree.
reaction label 108: He4 + V52_e30 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3139707.255477905 eV vs -3182380. eV!
```

68. Calculated and tabulated Q values disagree.
    reaction label 109: He4 + V52_e31 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -3171327.255477905 eV vs -3.214e6 eV!
    ```

69. Since the min allowed variance is 0, this means really you have a negative variance!!!!
    Section 67 (n + Mn55 [angular distribution]): / Form 'eval': / LegendreLValue L=1 vs 1 (Error # 0): Very small variance

    ```
    WARNING: Encountered very small variance (-2.988110e-04%) at index 17.
    WARNING: Encountered very small variance (-5.046790e-04%) at index 18.
    WARNING: Encountered very small variance (-5.681000e-04%) at index 19.
    WARNING: Encountered very small variance (-3.405190e-04%) at index 20.
            ... plus 6 more instances of this message
    ```

70. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.
    Section 67 (n + Mn55 [angular distribution]): / Form 'eval': (Error # 1): Bad evs

    ```
    WARNING: 13 negative eigenvalues! Worst case = -8.741250e-02
    ```

71. Since the min allowed variance is 0, this means really you have a negative variance!!!!
    Section 68 (n + Mn55_e1 [angular distribution]): / Form 'eval': / LegendreLValue L=1 vs 1 (Error # 0): Very small variance

    ```
    WARNING: Encountered very small variance (-2.433120e-03%) at index 1.
    WARNING: Encountered very small variance (-3.478170e-03%) at index 2.
    WARNING: Encountered very small variance (-4.213290e-03%) at index 3.
    WARNING: Encountered very small variance (-4.769320e-03%) at index 4.
            ... plus 20 more instances of this message
    ```

72. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.
    Section 68 (n + Mn55_e1 [angular distribution]): / Form 'eval': (Error # 1): Bad evs

    ```
    WARNING: 11 negative eigenvalues! Worst case = -9.498277e-02
    ```

- njoy2012   Warnings:

  1. Message comes from several resonance types that do not support the calculation of angular distributions. Some of them can be used if `Want_SAMRL_RM` or `Want_SAMRML_BW` are true.
     reconr...reconstruct pointwise cross sections in pendf format (0): RECONR/calculation of angular distribution not installed (0)

     ```
       ---message from rdf2bw---calculation of angular distribution not installed.
         samm max legendre order:  0
     ```

  2. Recoil is not given, so one-particle recoil approximation used.
     heatr...prompt kerma (0): HEATR/hinit (4)

     ```
       ---message from hinit---mf6, mt102 does not give recoil za= 25056
                               photon momentum recoil used.
     ```

  3. Cross section not found.
     errorr...produce cross section covariances (0): ERRORR/rdgout (4)

27

```
        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

  4. Cross section not found.
     errorr...produce cross section covariances (1):  ERRORR/rdgout (4)


        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

  5. Cross section not found.
     errorr...produce cross section covariances (2):  ERRORR/rdgout (4)


        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

  6. Cross section not found.
     errorr...produce cross section covariances (3):  ERRORR/rdgout (4)


        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

  7. Cross section not found.
     errorr...produce cross section covariances (4):  ERRORR/rdgout (4)


        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

  8. Cross section not found.
     errorr...produce cross section covariances (5):  ERRORR/rdgout (4)


        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

  9. Cross section not found.
     errorr...produce cross section covariances (6):  ERRORR/rdgout (4)


        ---message from rdgout---mf 3 mt 37 not found.
                        calculation continued with sigma=0

 10. Only partial urr covariance data was given.
     errorr...produce cross section covariances (7):  ERRORR/resprx (5)


        ---message from resprx---mf2 nls=2, but mf32 nls=0
                        continue with partial urr covariance data

 11. No scattering radius uncertainty given.
     errorr...produce cross section covariances (8):  ERRORR/rpxlc12 (0)


        ---message from rpxlc12---no scattering radius uncertainty


 12. Generic warning message
     errorr...produce cross section covariances (9):  Warning


        ---message from rpxlc12---resonance parameter loop done            145.6s
```

28

13. Generic warning message
    errorr...produce cross section covariances (10):   Warning

```
 ---message from rpxlc12---sensitivity calculation continues          290.0s
```

14. Generic warning message
    errorr...produce cross section covariances (11):   Warning

```
 ---message from rpxlc12---sensitivity calculation completed          485.4s
```

- `acelst` Warnings:

    1. The incident energy grid is not monotonic for this angular distribution
       0: Bad Ang. Dist.

    ```
    ACELST WARNING - Processing Ang.Dist.MT        2
                     E-grid non-monotonic   4.000000000E+01 4.000000000E+01
    ```